

REMARKS

The Final Office Action mailed February 14, 2007, has been received and reviewed. Claims 1 and 3 through 28 are currently pending in the application. Claims 1, 4 through 6, 11, 12, 14 through 16, 22, 23 and 28 stand rejected. Claims 3, 7 through 10, 13, 17 through 21 and 24 through 27 have been objected to as being dependent upon rejected base claims, but the indication of allowable subject matter in such claims is noted with appreciation. Applicant proposes to amend claims 1 and 11, and respectfully requests reconsideration of the application as proposed to be amended herein.

35 U.S.C. § 102(e) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 6,773,938 to Wood et al.

Claims 1, 4 through 6, 11, 12, 14 through 16, 22, 23 and 28 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Wood et al. (U.S. Patent No. 6,773,938). Applicant respectfully traverses this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicant respectfully asserts that independent claims 1 and 11 are not anticipated by Wood et al. under 35 U.S.C. § 102(e) because Wood et al. does not describe each and every element of independent claims 1 and 11, as currently amended. In particular, Wood et al. does not describe “ablating [a depression] *elongated in a direction substantially parallel* to a surface of [a] semiconductor substrate in and along the surface,” as recited in each of independent claims 1 and 11.

Wood et al. describes a microelectronic component test system 10 that includes a probe card 20. *Wood et al.*, col. 3, ll. 10-14; FIG. 1. With reference to FIGS. 4-16, Wood et al. describes a method of manufacturing the probe card 20. *Id.*, col. 3, ll. 49-50. A substrate 200 is provided and blind vias or holes are formed in the substrate. *Id.*, col. 3, ll. 50-51, 63; FIG. 5.

The blind vias or holes “*extend inwardly* from the front face 202 of the substrate to a depth A from the front face 202.” *Id.*, col. 3, ll. 64-66; FIG. 5. The blind vias or holes 210 may be formed in a variety of ways, including being laser machined via laser ablation. *Id.*, col. 4, ll. 7-8, 19-20. Once the blind vias or holes 210 are formed an intermediate layer 215 may be deposited on the substrate 200 to cover the front face 202 of the substrate and an internal surface of each of the holes 210. *Id.*, col. 4, ll. 41-47; FIG. 6. A conductive material is then deposited over the intermediate layer 215 and may substantially fill each of the holes 210. *Id.*, col. 5, ll. 15-19; FIG. 7.

Wood et al. merely describes ablating holes 210 in a surface of the substrate 200 that “*extend inwardly*” from the front face 202 surface, or in other words, transverse to the front face 202 surface. *Id.*, col. 3, ll. 64-65. The holes 210 described by wood et al. are not *elongated in a direction substantially parallel* to the front face 202 surface of the substrate 200. On the contrary, the holes 210 extend inwardly from the front face 202 surface and are elongated in a direction substantially *perpendicular* to the front face 202 surface of the substrate 200.

As Wood et al. does not expressly or inherently describe ablating a depression in a substrate that is “*elongated in a direction substantially parallel* to a surface ... in and along the surface,” as recited in each of independent claims 1 and 11 as currently amended, Applicant asserts that independent claims 1 and 11 are not anticipated by Wood et al. and respectfully requests that the Examiner withdraw the rejection of independent claims 1 and 11 under 35 U.S.C. §102(e).

In the rejection of claim 11 under 35 U.S.C. § 102(e) as being anticipated by Wood et al., the Examiner states that “Wood et al. in view of Patterson et al. as explained above,” disclose the elements of claim 11. *Office Action dated Feb. 14, 2007*, Page 3, line 12. This appears to be an inadvertent error, as a combination of references is inappropriate for a rejection under 35 U.S.C. § 102(e), and the Patterson et al. reference does not appear to be explained or described elsewhere within the Office Action.

Additionally, pursuant to 35 U.S.C. §103(c), it would also be inappropriate to combine the Patterson et al. reference with the Wood et al. reference in an obviousness rejection under 35 U.S.C. § 103(a), as Wood et al. (which issued from application no. 10/230,653, filed Aug. 29,

2002 and published Mar. 4, 2004) qualifies as prior art to this application (which was filed Sep. 29, 2003) only under one or more of subsections (e), (f), and (g) of 35 U.S.C. §102. The subject matter of this application, and in particular the inventions of claim 11, were owned or subject to an obligation of assignment to Micron Technology, Inc. at the time the claimed inventions were made, as evidenced by the recordation of assignment at the U.S. Patent and Trademark Office on microfilm located at reel 014570 and frame 0165 on Sep. 29, 2003. At the time of the invention of claim 11 Wood et al. was assigned to and owned by the same Micron Technology, Inc., as evidenced by the recordation of assignment at the U.S. Patent and Trademark Office on microfilm located at reel 013245 and frame 0570 on Aug. 29, 2002. Therefore the subject matter described in Wood et al. and the inventions of claim 11 were, at the time the inventions of claim 11 were made, "owned by the same person or subject to an obligation of assignment to the same person," as recited in 35 U.S.C. §103(c). As a result, Applicant respectfully asserts that under 35 U.S.C. §103(c), the subject matter of Wood et al. cannot preclude patentability of the inventions of claim 11 under 35 U.S.C. § 103(a).

Applicant additionally asserts that each of the dependent claims 4 through 6 and 28 is allowable at least because each depends directly or indirectly from independent claim 1, which is allowable. Therefore, Applicant asserts that each of the dependent claims 4 through 6 and 28 is not anticipated by Wood et al. and respectfully requests that the Examiner withdraw the rejections of dependent claims 4 through 6 and 28 under 35 U.S.C. §102(e).

Applicant additionally asserts that each of the dependent claims 12 and 14 through 16 is allowable at least because each depends directly or indirectly from independent claim 11, which is allowable. Therefore, Applicant asserts that each of the dependent claims 12 and 14 through 16 is not anticipated by Wood et al. and respectfully requests that the Examiner withdraw the rejections of dependent claims 12 and 14 through 16 under 35 U.S.C. §102(e).

Applicant respectfully asserts that independent claim 22 is not anticipated by Wood et al. because Wood et al. does not expressly or inherently describe "ablating one or more depressions *in a surface of [a] sidewall* of [a] semiconductor substrate," as recited in independent claim 22.

Applicant respectfully asserts that those of ordinary skill in the art know that semiconductor substrates are substantially planar and include two major surfaces, i.e., an active

surface and a backside surface, with sidewalls that extend between the two major surfaces, typically in a direction that is normal to the major surfaces. As previously discussed in relation to claim 1, Wood et al. describes ablating a hole that extends inwardly from surface 202 of a substrate 200. *Wood et al.*, column 3, lines 63-66. Furthermore, Wood et al. teaches that the substrate may comprise an “undoped silicon wafer.” *Id.*, column 3, lines 58-60. As clearly shown in FIGS. 4 through 16, the holes 210 are formed, however, in one of the major surfaces (the “front face 202” and the “back face 204”) of the substrate 200. *Id.*, column 3, lines 51-53. Wood et al. clearly does not expressly or inherently describe forming the holes 210 *in sidewalls* of the substrate 200, which are only shown in FIG. 1 and not in any of FIGS. 4 through 16.

As Wood et al. does not expressly or inherently describe each and every element recited in independent claim 22, Applicant asserts that claim 22 is not anticipated by Wood et al. and respectfully requests that the Examiner withdraw the rejection of independent claim 22 under 35 U.S.C. § 102(e).

Applicant additionally asserts that dependent claim 23 is allowable at least because it depends directly or indirectly from independent claim 22, which is allowable. Therefore, Applicant asserts that dependent claim 23 is not anticipated by Wood et al. and respectfully requests that the Examiner withdraw the rejection of dependent claim 23 under 35 U.S.C. § 102(e).

Regarding dependent claim 23, Applicant additionally asserts that Wood et al. does not expressly or inherently describe “depositing an electrically conductive material *over the surface of [a] sidewall* of the semiconductor substrate,” as recited in dependent claim 23. Wood et al. describes depositing conductive metal over a front face 202 of a substrate 200, which clearly is not a sidewall as previously discussed in relation to claim 22. Applicant respectfully asserts that dependent claim 23 is not anticipated by Wood et al., and requests that the Examiner withdraw the rejection of dependent claim 23 under 35 U.S.C. § 102(e) for this additional reason.

Objections to Claims/Allowable Subject Matter

Claims 3, 7 through 10, 13, 17 through 21, and 24 through 27 stand objected to as being dependent upon rejected base claims, but are indicated to contain allowable subject matter and would be allowable if placed in appropriate independent form. Each of the claims 3, 7 through

10, 17 through 21, and 24 through 27 depends either directly or indirectly from one of the independent claims 1, 11, or 22. Applicant respectfully asserts that each of the independent claims 1, 11, and 22 is allowable at least for the reasons previously discussed. Therefore, Applicant asserts that each of the claims 3, 7 through 10, 13, 17 through 21, and 24 through 27, as presented herein, depends from an allowable base claim, and respectfully request that the Examiner withdraw the objection to claims 3, 7 through 10, 13, 17 through 21, and 24 through 27.

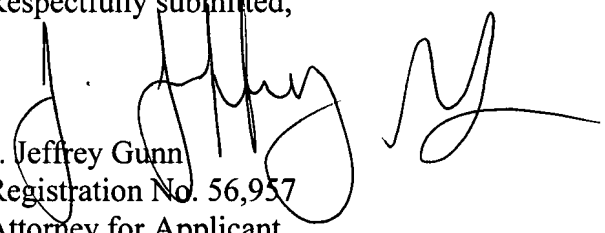
ENTRY OF AMENDMENTS

The proposed amendments to claims 1 and 11 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application. Further, the amendments do not raise new issues or require a further search. Finally, if the Examiner determines that the amendments do not place the application in condition for allowance, entry is respectfully requested upon filing of a Notice of Appeal herein.

CONCLUSION

Claims 1 and 3 through 28 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,



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